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DEPARTMENT OF ENVIRONMENTAL QUALITY
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MINERALS PROGRAM
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MAY 12 1992

DIVISION OF
OIL GAS & MINING

May 13, 1992

Mr. Dennis Riding
Tetra Tech, Inc.
1555 West 2200 South, Suite B
Salt Lake City, UT 84119

RE: Jumbo Mining Pads and Ponds
Additional Information

Dear Mr. Riding:

This letter is in summary of our meeting of March 30, 1992 with Messrs. Dennis Owens, Mark Novak, Kiran Bhayani, John Kennington, you and myself. I am supplying the following information per that meeting. Our previous comments on the draft feasibility analysis were furnished to you by letter dated August 14, 1991.

Ponds

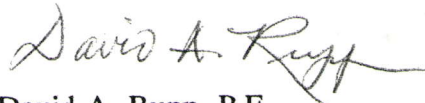
1. The allowable leakage rate for each pond, using the double liner configuration is 200 gallons per acre per day.
2. It appeared to us that removal of the lime deposits from the pond was the preferred alternative. We requested that a method to maintain the integrity of the liner during removal of the lime deposits be investigated and proposed for our review.
3. We requested an updated analysis of flood control for the pads and ponds for our review. A previous configuration was approved, which did not include the new pad.
4. We suggested that a preliminary design of the ponds and pads be submitted for review.
5. You may designate the sump beneath the primary liner in the ponds as the compliance monitoring point for the ponds in the ground water permit, and that leakage in excess of 200 gpd be considered a violation of the permit, requiring pond dewatering and repair action on Jumbo's part.

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Leach Pad:

1. The minimal liner thickness is 60 mils.
2. A double lined perimeter with sumps to monitor perimeter leaks is required. A concept drawing is attached. These sumps with corresponding monitoring ports should be placed at approximately 150-feet on centers where solutions will be conveyed around the pad perimeter.
3. Settlement stand design for the pad was also discussed. Settlement stands are required to measure deflection in subgrade fill areas. If fill areas will exist, then stands would be required in cut areas for reference. Please submit a proposed layout, as applicable.

Sincerely,

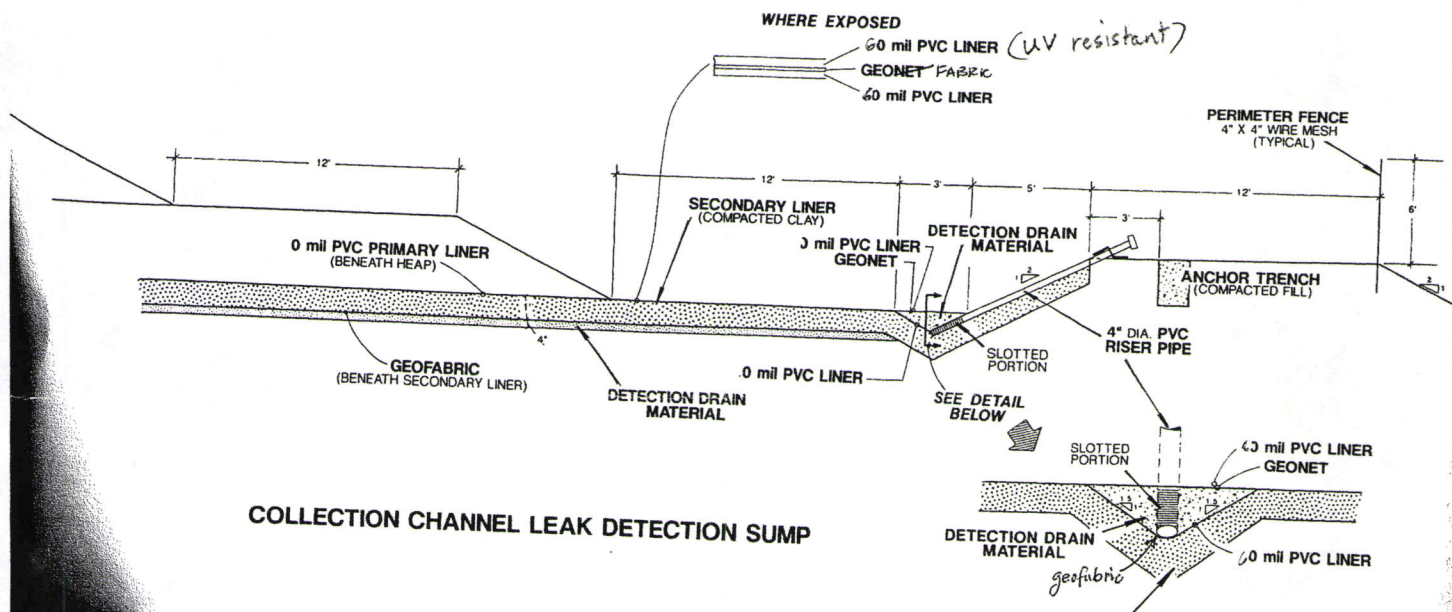
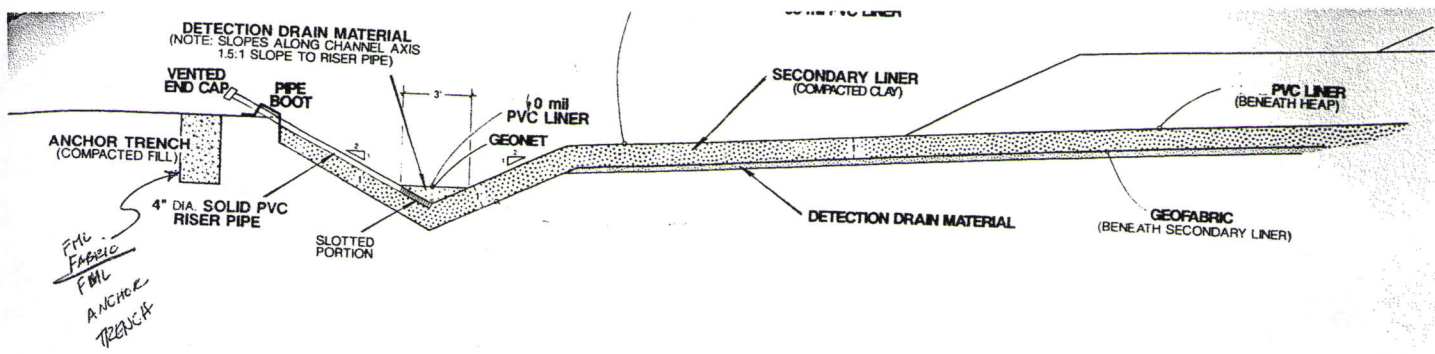


David A. Rupp, P.E.
Design Evaluation Section

Enclosure

DAR:rvg

cc: Mr. Ed King, Jumbo Mining Company
Mr. Wayne Hedberg, DOGM
U.S. Bureau of Land Management, House Range District



DESIGN SCHEMATIC

IN SOLUTION CONVEYING BOUNDARIES;
Sumps AT 150' O.C. \pm .